Heterogeneous Demand for Quality Soybean in Northern Ghana

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Hypothses

**Hypothesis 1** Significant differences exist in the level of discounts across key soybean attributes.

**Hypothesis 2** Significant differences exist in the level of discounts across buyer types operating in the soybean value chain.

Background

Over the last 20 years soybean has been the fastest growing broad land crop in terms of land under cultivation; outpacing rice and maize, by one-third (Tammie & Goldsmith, 2017). Soybean’s growth results from the rise in incomes and the change in diets and food consumption patterns involving shifts to animal-sourced and processed foods. While global demand has risen rapidly, Sub Saharan African (SSA) farmers and the rural economy have not benefited. To date less than 0.5% of all the soybean produced originates from SSA, excluding South Africa. Regional policy makers and development operatives in Africa now are looking to develop local soybean value chains as a way to increase economic development and reduce the imports of oil and livestock feeds (see IFDC, 2013).

Introduction of new commercial crops and the associated market interactions presents many challenges to smallholders as they navigate new norms associated with long commercial value chains (Tammie & Goldsmith, 2017). Fundamental to this commercial transaction is the definition of quality by the buyer, and the discounting that result when grain fails to meet the expected standard. This study aims at improving the symmetry of quality information across actors and contribute to agricultural commercialization literature in developing country. We estimated WTP and preference heterogeneity across buyer types using choice experiment.

**Method**

**Experimental design**

Figure 1: Example of a choice experiment

- **Trader Survey and Choice experiment survey**
  - A. Possible combinations of attributes is 72 (2^4 x 3^2)
  - B. Use Orthogonal fractional design to generate to generate 18 choice set scenarios devoid of strong correlations among attributes
  - C. 18 choice sets put into 3 blocks with each block consisting of six choice sets

**Results**

**Data**

The study was conducted in northern Ghana in the summer of 2017. The actors are Wholesalers, Processors and Retailers.

**Discussion and conclusion**

Our results suggest three classes of soybean buyers “high price discount”, “big soybean size supporters”, and “soybean variety skeptics”. Two main facts: (1) farmers lack clear signals about incentives for quality thus unable to respond positively; (2) lack of consistent information on quality and standards among the supply chain actors. Traders are willing to pay US$45.92 for a bag (104kg) of soybean that satisfies all the preferred attributes. Processors WTP (US$50) is higher than wholesalers (US$45) and retailers (US$17).

There is need for a multi-stakeholder meeting (MSM) with all relevant stakeholders in the soybean value chain to build consensus on quality standards on production and market attributes.

**References**

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